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VIII. *An Account of an Experiment, concerning the Angle requir'd to suspend a Drop of Oyl of Oranges, at certain Stations, between two Glass Planes, placed in the form of a Wedge. By Mr. Fr. Hauskbee, F. R. S.*

I Procured two Glass Planes that measur'd a *Radius* of twenty Inches each ; their breadth was about 3 Inches : That which I us'd for the lower Plane, was plac'd with its Surface parallel with the Center of its *Axis*, and parallel with the Horizon. Thus (the Planes being very clean) they were rubb'd with a clean Linnen Cloth dip't in Oyl of Oranges : Then a drop or two of the same Oyl being let fall on the lower Plane near the *Axis*, the other Plane was laid on it ; which so soon as it touch'd the Oyl, the Oyl spread itself considerably between both their Surfaces. Then the upper Plane being rais'd a little at the same end by a Screw, the Oyl immediately attracted itself into a Body, forming a Globule contiguous to both Surfaces, and began to move forwards toward the touching ends. When it had arriv'd two Inches from the *Axis*, an Elevation of 15 Minutes at the touching ends stopt its progress, and it remain'd there without Motion any way. The Planes being let fall again, the drop mov'd forward till it came to four Inches from the Center ; then an Elevation of 25 Minutes was requir'd to give it a fixt Station. At 6 Inches it requir'd an Angle of 35 Minutes ; at 8, of 45 Minutes ; at 10, a Degree. At 12 Inches from the *Axis*, the Elevation was 1 Degree 45 Minutes ; and so on, at the several Stations, as they stand in the following Table. This, after

abundance of tryals, I take to be the most correct, tho' the others succeeded very little different from the same. It is to be observ'd, that when the Globule, or Drop, had arriv'd to near 17 Inches on the Planes from their *Axis*, it would become of an Oval form; and as it ascended higher, so would its Figure become more and more oblong; and unless the Drop was small, upon such an Elevation of the Planes as was requir'd at such a progress of the Drop, it would be parted, some of it descending, and the rest of it running up to the top, at once: But upon a Drop that separated thereabouts, I found the remaining part of it at 18 Inches, would bear an Angle of Elevation equal to 22 Degrees to ballance the weight of it. Higher than that I could not observe. The Planes were separated at their *Axis* about $\frac{1}{16}$ of an Inch. I found but little difference between small and larger Drops of the Oyl, in relation to the Experiment. The Angles were measured by a Quadrant mark'd on Paper of near 20 Inches *Radius*, divided into Degrees and Quarters.

| Distance in Inches from the <i>Axis</i> . | Angle of Elevation. | |
|---|------------------------|-----------|
| | <i>D.</i> | <i>M.</i> |
| 2 | 0 | 15 |
| 4 | 0 | 25 |
| 6 | 0 | 35 |
| 8 | 0 | 45 |
| 10 | 1 | 00 |
| 12 | 1 | 45 |
| 14 | 2 | 45 |
| 15 | 4 | 00 |
| 16 | 6 | 00 |
| 17 | 10 | 00 |
| 18 | 22 | 00 |